EXPRESSION OF THE N-METHYL D-ASPARTATE RECEPTOR IN THE MEDIAL NUCLEUS TRACTUS SOLITARIUS OF NEONATAL PIGLETS, Zachary J. Baeseman[1], H.V. Forster*[2]. St. Norbert College[1], 100 Grant St., De Pere, WI 54115, The Medical College of Wisconsin[2], Physiology Department, 8701 Watertown Plank Road, Milwaukee, WI 53226, zach.baeseman@snc.edu

A synaptic rearrangement has been observed in neonatal rats due to a decrease in excitatory and an increase in inhibitory drive receptors involved in respiration at postnatal day 4 and 12. It has been postulated that this synaptic rearrangement could result in rendering the respiratory system susceptible to insults, possibly causing various neonatal deaths (i.e. Sudden Infant Death Syndrome). In aims of using an organism closer to humans, a pilot study was carried out regarding the expression of the excitatory receptor N-Methyl D-Aspartate (NMDA) in neonatal piglets. The medulla oblongata of the neonates (postnatal days 1, 7, 12, 18) were characterized by sectioning at 25 μm caudal to rostral starting at Obex; the NMDA receptor was then quantitatively analyzed and compared via immunohistochemistry followed by averaging optical densitometry studies within the entire Medial Nucleus Tractus Solitarius for each neonate.

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